



AN
INAUGURAL ESSAY
ON
PULMONARY CONSUMPTION,
FOR THE DEGREE OF DOCTOR OF PHYSIC
Submitted to the consideration
OF
THE HONOURABLE ROBERT SMITH, PROVOST,
AND OF THE
REGENTS OF THE UNIVERSITY OF MARYLAND,
BY
✓
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TO

ASHTON ALEXANDER, M. D.

Baltimore Maryland.

DEAR SIR,

Impressed with a just sense of the numerous favours which you have conferred on me, and also of your polite attentions during the prosecution of my studies under your directions, I rejoice at the opportunity which has offered of making public my obligations to you and returning you my grateful acknowledgements.

I beg your acceptance therefore of this probationary essay, the first result of those instructions with your accustomed indulgence, and also of my sincere wishes for your welfare and happiness.

I am sir your affectionate friend and pupil

DANIEL M. MOORE.

INTRODUCTION.

THE difficulties which so generally attend the selection of a subject for an Inaugural Thesis, have also presented themselves to me, and might probably have been more serious, and not easily surmounted, had not my attention been directed to the present very interesting one by some observations of the Professor of the Institutes in this university, and likewise by a small work of Dr. Sutton, in which, sentiments highly favourable to my opinion are sustained and ably supported.

The unsuccessful manner in which the disease has almost uniformly been treated, has impressed both physicians and the public at large, with the idea of its being beyond the reach of the medical art, which has undoubtedly thrown many obstacles in the way of improvement of the treatment. The industry of physicians has been checked, and the progress of enquiry into the true nature of the disease, and the most rational method of opposing it have been arrested. It has damped that ardour for investigation, for which medical men of every age, particularly of the present, have been eminently conspicuous. Its baleful influence is not terminated even here; it extends itself to the people in general, who, respecting the opinions of those who ought to be the competent judges on this occasion,

neglect that prompt application for relief which affords the most reasonable expectation of success. The unfortunate sufferer, labouring under this complaint, is beheld alike by relatives and friends, who are also under this erroneous impression, as the victim destined to inevitable destruction, and resigned by them to his fate without even an effort at his restoration.

The real cause, which has rendered all their endeavours at the removal or palliation of this truly formidable and dreadful complaint inefficient, and first gave rise to this opinion so injurious in its tendency, appears to be a confusion occasioned by the unlimited manner in which the term *phthisis pulmonalis* was applied; and also by an erroneous view which has been taken of its proximate cause, and as the real nature of the disease has not generally been understood, or at least not always kept in view, it is not at all surprising that physicians have been so frequently foiled in their treatment of it.

These considerations have influenced me in the choice of *phthisis pulmonalis* as the theme of this my first essay. Not being in the possession of any thing particularly new, I cannot flatter myself with the hope of reflecting much light upon this subject. My exertions may serve to direct the attention of some future enquirer toward the same path, who may have been more fortunate in the collection of new facts in favour of the same opinion. It will also be a public testimony of my high respect for those from whom I derived these sentiments.

ESSAY

ON

PULMONARY CONSUMPTION.

IN the first lines of Dr. Cullen, he defines pulmonary consumption to be an expectoration of purulent matter from the lungs, attended with hectic fever. He ascribes the occurrence of the disease to hæmoptysis, pneumonia producing suppuration, catarrh, Asthma, and tubercles. His sentiments respecting the manner in which these causes act in producing phthisis are so well known to every one who has paid the smallest attention to the science of medicine, that it is unnecessary to make an abstract of them in this place. It might be well, however, to remark, that he has not spoken with his accustomed decision on the subject, but has left us to enjoy a free range in conjecture. Thus far though, he has said—that he believes none of the causes except the latter to be capable of producing the disease, unless there be a certain predisposition to it pervading the system.

Purulent discharges of every description have generally been allowed to be causes of confirmed phthisis. This application of the term appears, however, to be by far too general, for every case of vomica, where the pus was discharged by coughing would come under this denomination,

and there are many reasons which may be adduced why this extensive application of the term, should be denied it, and which certainly must have suggested themselves to the mind of every person who has been accustomed to contemplate the subject. The symptoms of the various affections of the lungs differ so materially from a confirmed consumption, as to indicate a treatment entirely distinct and sometimes diametrically opposite to each other; for in the former case, the whole antiphlogistic regimen will be indicated, while in the latter, the tonic plan alone will be advantageous.

The predisposition of which Dr. Cullen speaks as being essential to the formation of a pulmonary consumption, will not be necessary to the production of a vomica, for it is very reasonable to conclude that an inflammation will be quite as likely, if not more so, to terminate in a suppuration, when situated in the lungs as in any other part of the body.

It would therefore seem much more advisable to apply the term *phthisis pulmonalis* only to those cases of that inveterate nature in which tubercles have been formed in the lungs, (and that they are present, is established beyond a doubt by numerous dissections,) as these certainly arise from some specific cause, and as the treatment of the disease will be rendered thereby more certain and easy; for we find authors even at the present period, recommending a treatment directly opposite to each other, and surely this difference in opinion can arise from no other cause than the ignorance of one or the other, of the true nature of the disease, which, when once understood, will certainly, of itself, point out the most proper method of treatment.

In the dissection of persons who have died of pulmonary consumption, tubercles have universally been found. Dr. Simmons concludes a paragraph on that subject in the following manner—"I have had opportunities of inspecting the bodies of several who have died of pulmonary consumption, and I never found tubercles totally absent.

Doctor Sutton has also observed that he inspected the lungs of many who had fallen victims to this disease, and does not recollect to have met with any free from tubercles.

The next enquiry which presents itself is the real nature of phthisis pulmonalis. This we are the more inclined to make, as there are a great variety of conjectures on the subject, and a considerable diversity of opinion prevalent at the present day, some of which are mere hypothesis, unsupported by either facts or experience. To enumerate all these opinions would be superfluous, as an examination of their particular merits in this place, would far exceed the bounds which are prescribed to an inaugural thesis; and also, the short period allotted for preparation, will not admit of it. I will therefore only state that one in particular, which, from its probability, seems to be best entitled to our respect and attention.

That a certain predisposition is necessary to the production of this disease, has been admitted by every unprejudiced writer, who has devoted his attention to the investigation of the subject, and appears incontrovertibly established by the fact of the lungs having been in a great number of instances wounded and otherwise injured, without any symptoms of the formation of tubercles having occurred. A case which has been related by Doctor May, in a small work, published some time since, is so strong an evidence of the fact, that I will here beg leave

to introduce it. A gentleman during the American war, was under the unfortunate necessity of meeting a brother officer in a duel. The shot of his antagonist entered his breast, passing in the direction of the right lobe of the lungs, through which it appeared to have penetrated. The external hemorrhage was not very considerable, but a large quantity of blood was expectorated, accompanied with great difficulty of breathing, and a cough, and symptoms of violent inflammation speedily supervened. The antiphlogistic regimen was adopted, and every judicious method of obviating inflammatory diathesis, was assiduously used. Blood continued to be discharged by coughing for many days, which was followed by a truly purulent expectoration and all the symptoms of a perfect pulmonary consumption.

The exact duration of these complaints I cannot now ascertain: symptoms of convalescence, however, soon appeared, and the patient entirely recovered from the injury which he had received.

During the purulent expectoration a circumstance occurred which places the actual injury which the lungs themselves had sustained beyond all possibility of doubt. A piece of flannel cloth was thrown up by the cough, enveloped in a clot of blood and pus, and upon comparing it with a hole in an inner waistcoat, through which the bullet had passed, it was found exactly to correspond with it, and had been actually carried along with the ball into the cavity of the wounded lung. The ball continued its progress, and passing out between the ribs of the posterior part of the chest, was afterwards extracted from the region of the loins, where it had descended by its own gravity, and deposited itself just beneath the common integuments.

That the sense of the author might in no degree be perverted, I have stated the case in his own words. By it

will be seen the possibility of the lungs being injured materially, and, as in this case, dreadfully lacerated, without a confirmed phthisis being the consequence.

In what manner can the inoffensive nature of such wounds be accounted for unless it be admitted that a certain predisposition is necessary to the production of consumption? The patient in this instance was also represented to be of a robust and firm habit—notwithstanding all these unfavorable circumstances he was ultimately restored to as perfect health as he had enjoyed previous to his having received the injury.

Professor Gregory, in his work entitled “*De morbis cœli mutatione medendis*,” relates a similar instance. *Præfectus militaris*, says he, *qui phthisi pulmonali laborare credebatur, globulo plumbeo per pulmones transmisso. Hoc remedium, asperum quidem et periculosum optime successit, et homo per multos jam annos vixit, et adhuc vivit, ab omni phthiseos symptomate liber.* After a variety of arguments to the same purpose he draws the following conclusion. *Hæc omnia, ni fallor, plane demonstrant, meram pulmonum læsionem, vasisque in iis rupturam, ulcus insanabile et phthisin nequaquam inducere, nisi prius pulmones vel universus corporis habitus labe aliqua corrupti fuissent.*

The above cases, and also the opinions of the best authors, leave little or no doubt remaining of the necessity of a certain predisposition being requisite to the production of consumption. It will next be necessary to examine into the specific character of this predisposition.

On a subject which has engaged so much attention, and occasioned so much controversy, I feel myself incompetent to enter, and were I not supported in the opinions I have embraced by those of some of the most emi-

ment in the profession of medicine, I should perhaps leave this part of the subject, in despair of doing it sufficient justice, with the hope that some one more competent might turn his attention towards it. While such names as Gregory, Sydenham and Morton can be adduced in my support, I think I may avoid the accusation of arrogance or presumption, tho' the doctrines here embraced should differ essentially from those most generally received at present.

Throughout the whole chapter, by Dr. Cullen, on the subject of pulmonary consumption, though we find no determinate ideas on the subject of the predisposition, yet there is evidently a very strong inclination towards the doctrine of its being of a serophulous nature.

The experience of many of the most intelligent medical writers, has been combined in support of the correctness of this view. In a late work by the Professor of the Institutes of Physick in this university,* we find the following definition of the disease: "*Scrophula pulmonaria; cum corporis emaciatione; tussi, febre hectica; et pleurumque expectoratione purulenta, aliquando haemoptoe; dyspnoea vel orthopnoea; rubore genarum; molestiae aut doloris, et aliquando caloris, in pectore, sensu; unguibus aduneis; sudoribus marcescentibus.*"

A case which has been given me by the most undoubted authority, tends strongly to evince the propriety of the definition. A lady of this place was taken ill with a violent cough, which at first was mistaken for a catarrh; the remedies usual on such occasions, succeeded in affording her some relief. Soon afterwards she was affected with a troublesome and extensive ulceration of the scalp, which, for a considerable time baffled the endeavours of her

* John B. Davidge, M. D.

physician to heal it. He at length resolved on dissecting off the whole surface of the ulcer, which he accordingly practised, with the good fortune of being successful in effecting his object. After she had enjoyed, apparently, perfect health for some time, she was seized with a sore throat, which ulcerated and was extremely troublesome, being very painful and offensive. The physician who at this time attended her not being the same who had attended her during her former indispositions, was not a little surprised at the obstinacy of the ulcer, which had proved to be extremely untractable for several weeks. At length the patient related to him the circumstances of her former indispositions, and he immediately was able to trace their connections with each other, and inferred from the whole, taken collectively, that the present affection, as also the former ones, were of a scrophulous nature. In conformity with this opinion, he introduced a seton in the back of the neck, which with the tonic regimen succeeded in removing the complaint, which has never since returned.

In the course of this case the scrophulous predisposition is very evident, making its attacks on those parts of the system which were the most debilitated, or the most exposed to the action of exciting causes.

The induration of the mesenteric glands, which is universally found to be present, by dissection of those who have died of phthisis, is another very powerful argument in proof of the scrophulous nature of the disease; as also the affections of the glands of the neck; of the existence of this fact we have the united evidence of almost all those who have engaged in dissections. Dr. Thomas Sutton, who has examined a great number of this description, says, that in every instance he either found the glands of the mesentery, mesocolon, or those of the neck affected.

The occurrence of the consumption in those habits which are known to possess a strumous taint, also tends to establish the similarity or identity of the diseases in question. In the description of persons of a serophulous predisposition, a fair skin, tumid upper lip, delicacy of the muscular fibres, are the most prominent features.

There is also considerable analogy existing between the tubercles found on dissection, in the lungs, and tumours of the glands of the neck and mesentery. In the work of Sydenham, the same observations respecting those tumours are to be found. Gregory also has advanced the opinion of the serophulous nature of consumption in the following remark, which may be found in his thesis. “*Ex his omnibus, satis patet phthisin pulmonalem a dispositione serophulosa sæpe oriri et verum morbum serophulosum esse.*”

Many other arguments might be adduced in support of the serophulous nature of this disease, but those already quoted, it is hoped, will be found sufficiently satisfactory; as they are, from the high authorities by whom they have been presented to the world, entitled to our belief and confidence, and from their importance to our most serious consideration.

It might be well here to notice an argument which has been opposed to this theory, and upon which great stress has been laid. It is that the serofula attacks persons early in life, and the consumption takes place at a more advanced period. If this were the fact it would only prove that the consumption was the more formidable degree of the same disease; but the fact is not so, for we are informed by Doctor Cullen, that a tuberculous and purulent state of the lungs has been observed in very young children, and in others at different periods between

infancy and the age of puberty. Dr. Baillie, in his morbid anatomy, has also stated that he has found tubercles in the lungs at the age of three years.

This view of the disease has other advantages of no less importance, as it enables us to explain many of those phenomena which occur in it, and which were considered inexplicable, or, at least, could not be satisfactorily accounted for. These were the great degree of emaciation; the flushed face in hectic fever; the swelling of the abdomen; the diarrhea; and various other symptoms, which are rendered perfectly intelligible when we adopt these principles.

The commencement of a pulmonary consumption is marked by a slight cough, an emaciation of the whole body, attended with a hectic fever; an oppression or stricture, and sometimes pain in some part of the chest, mostly immediately behind the sternum. It is also commonly accompanied with a purulent expectoration. These symptoms are generally all attendant on the incipient stage, gradually, and almost imperceptibly, increasing as the disease advances, until the cough and pain which extends itself to either side, is increased to such a degree as to deprive the patient in a great measure of sleep, both being much aggravated by lying down, particularly on that side where the pain is situated. The exacerbations of the hectic become also more violent, being attended with profuse sweats. The purulent expectoration likewise becomes more considerable, sometimes mixed with blood, which is frequently discharged in large quantities: the emaciation also, advances to a very great degree; a diarrhea comes on sometimes, alternating with profuse sweatings; the nails are hooked, the hair falls off towards the termination of the disease; a delirium, the harbinger of

death, takes place, and continues until that melancholy event has occurred.

This disease is certainly a very insidious one, and may make considerable inroads on the system before the patient or any one else, is apprised of its approach.

The cough, which is generally one of the first symptoms, has been frequently mistaken for a common catarrh, and very little attention paid to it for some time. Without particular attention this might easily occur in many instances, for a catarrh and an incipient pulmonary consumption, resemble each other so much that they can be distinguished with difficulty. The importance, however, of drawing a line of distinction between them is so obvious, that several writers have noticed it. This may most generally be done by a strict attention to the following signs. A hectic fever, which always attends a pulmonary consumption, never occurs in a catarrh. This distinction, however, will not answer to be depended upon in all cases. For the hectic fever which attends consumption, is mostly a secondary symptom.

There are other signs which are much more decisive, in as much as they are uniformly present. These are the difference in the appearance, consistency, and qualities of the discharges. In a catarrh mucus alone is expectorated; this is white and more viscid than the pus which is thrown up in a consumption, which has a greenish cast; pus is sometimes mixed with blood, which is seldom or never the case with mucus. These fluids may further be distinguished from each other by mixing them with water; the pus is easily diffused in water, and the mucus is mechanically suspended with difficulty. The specific gravity of mucus, when compared with water, is much less than that of pus; the former will swim and the latter

sink in the water. The distinct nature of these fluids will also be evinced by mixing them with certain substances, as the sulphuric acid, which dissolves mucus more easily than it does pus; if water should be added to the solution, the former will be separated and float on the top, while the latter will be precipitated to the bottom.

These, I conceive, will always be sufficient to determine the nature of the discharge with tolerable precision; and as this distinction is of the greatest import in the treatment of the diseases, they should always be had recourse to, where the least doubt existed, respecting the specific nature of the disease under which the patient shall labour.

The emaciation which pervades the whole system, and which is one of the characteristics of the disease, has not yet been satisfactorily accounted for by any writer who has not admitted the disease to be serophulous in its nature. It has, however, been imputed to the copious sweatings which attend the hectic fever: this may probably be, in some degree, instrumental in producing it, but when we consider, that during three fourths of the day, the insensible perspiration is entirely checked by the fever, we may, with justice conclude, that the quantity of fluid discharged in that way, does not much exceed that secreted in a natural and healthy condition of the system. If, therefore, this cause were productive of emaciation in any degree, it must be acknowledged to be very limited in its operation. From the view which has just been taken of the proximate cause of the complaint, this circumstance will very readily be explained, and, perhaps, this might be adduced as one of the most powerful arguments in support of the serophulous nature of it.

The dissections of Doctor Sutton all shew the induration of the mesenteric glands, to be a prominent feature in the disease. This induration of the glands must necessarily prevent the usual quantity of nutriment being supplied to the body, as it is through the medium of these glands that it receives its nourishment, and, as we are convinced at present, that there is a constant absorption of the various parts of the body when in a healthy state, and a proportionate renewal of them. The result of the induration of the mesenteric glands, is precisely what we should, *a priori*, expect; provided the absorbent system still retained its activity, which we have no reason to doubt being the fact.

The hectic fever which uniformly attends the pulmonary affection, of which we have just spoken, has been considered by Doctor Cullen as a species of remittent, having two exacerbations in every twenty-four hours, with a slight remission interposed between them, accompanied by a sense of coldness; the evening exacerbation being the most considerable. This circumstance has been attributed to the food taken at noon, which has by some been considered as the sole cause of the evening paroxysm; but the doctor ably combats that opinion by stating that he had seen instances of the evening exacerbations having come on an hour before the usual time of taking nourishment; it may, nevertheless, have some effect in rendering the paroxysm more violent. As the disease advances the exacerbations become more considerable, attended with profuse sweatings; the tongue, which before had been furred, becoming perfectly clean, sometimes swelling, appears inflamed, and covered with a kind of aphthae, as also the fauces.

The occurrence of this fever has been accounted for in a great variety of ways. Some of the most modern have attributed it to the absorption of acrid matter; but a fact which I have lately become acquainted with, has induced a belief that this opinion is incorrect, and that hectic fever is the consequence of local irritation. The occurrence of this fever in arthrocæe, or white-swelling, has been observed in many instances, and when the disease is situated in the knee joint, or in any other situation where amputation is practicable, the removal of it is immediately succeeded by a subsidence of the fever. If the cause of this fever were the absorption of acrid pus into the general system, its cure would at least require some days; this, on the contrary, is sometimes effected in a few hours, and so completely is it removed, that rarely indeed does any febrile action take place afterward.

The method of treatment which has been indicated by the best and most approved authors, and supported by almost universal practice, is directly opposite to that which the preceding view of the disease would indicate to us.

The antiphlogistic plan of treatment has been pursued to its utmost extent, but, alas! the instances in which it has been unsuccessful are so numerous; that even its warmest advocates do not assert its efficacy. It is indeed difficult to account for this mode of treating a disease, so evidently attended with the most alarming state of debility, being still retained in practice, when scarce a single instance of its success is on record, and in these few, where it has succeeded, we are inclined to believe the disease has been mistaken for a consumption, when really no tubercles were present in the lungs.

The practice, on the contrary, which is about to be proposed, has not only for its support the principles on which it is founded, but also, the countenance of some of the ablest practitioners of the present day, in whose hands its success has been considerable.

As an obvious and general debility pervades the whole system, in this disease, and the local irritation produced by the tubercles, disposes the lungs to an inflammatory diathesis, the indication of cure will be to support and give tone to the general system, while at the same time, caution be observed in preventing any inflammation taking place in the lungs, and when it shall have taken place, immediately to arrest it.

The first of these indications will generally be effected by an attention to the following method, in which diet and exercise should be considered the principal remedies, and the officinal remedies as only secondary or auxiliary.

The exercise of the patient should be always proportionate to his strength, carefully avoiding the least excess or fatigue, which would be succeeded by debility—the method of exercise should also be governed by the same rule.

The most approved manner that can be devised is that of walking, which should always be preferred when the patient's strength and the weather will admit of it. In walking, the muscles of the body are more generally brought into action than by any other means, and it can be carried to any extent, according to the disposition of the invalid. It should be observed that if he reside in town he will derive the greatest benefit from his walk if he direct his course to the country, the air being more pure may have an effect in producing a pleasant exhilaration of the spirits in conjunction with the variety of objects which

he will meet with to engage his mind, and through that medium produce a beneficial effect upon his body.

Riding on horseback is also a very agreeable and useful method of exercising, and in warm seasons perhaps would be in no degree inferior to walking; it is not so apt to be succeeded by fatigue, and might with advantage be alternated with walking.

It might be adviseable for the patient to travel some distance from home, as a change of air and climate would tend very much to the re-establishment of his health.

When these two kinds of exercise are not admissible on account of the weakness of the patient, riding in a carriage will be useful, and an open carriage would be preferable to a close one, both as the circulation of the air would be more free, and as his view of the surrounding scenery would be less interrupted.

Sailing, swinging, fencing, and playing at billiards, have all been found useful and have been highly recommended when the patient is unable to bear the fatigue of riding, and when the inclemencies of the weather will not admit of his exposing himself to it. Much advantage has been derived by sawing wood, as it brings the muscles of the arms, chest and abdomen into action, and will no doubt, always be found serviceable.

Particular attention should be paid to the preservation of an uniform temperature of the body, and this will be most certainly effected by wearing flannel next to the skin; this precaution would also have the effect of keeping up that insensible perspiration which would tend very much to the removal of the fever, and of course alleviate all the symptoms very considerably.

The diet of the patient during the whole of his illness should be of the most generous kind, at the same time it will be absolutely necessary to guard against high seasoning which would in all probability excite that inflammatory diathesis which it is so necessary to avoid, as it will be found to interfere very much with the cure.

The second indication, namely, the prevention of an inflammatory action taking place in the lungs, will call loudly for the aid of the medical attendant; this he will find it necessary to check as soon as possible, and may be done most effectually by the use of the lancet, which in its extent will be governed by the urgency of the symptoms. The same means will be useful in arresting any hæmorrhage which may take place from the lungs; as the restoration of the general strength of the patient is the great object, he will be careful not to draw too much blood at one time, but repeat his evacuations as often as these symptoms may require them.

The cough is sometimes so troublesome as to require some anodyne for its alleviation; care should be taken to make choice of such of them as will tend least to excite the general action of the system, and to avoid as much as possible the use of them when any inflammatory disposition is present.

Previous to dismissing the subject I shall beg leave to remark, that the treatment which has just been described, and founded on the doctrine embraced in this essay, has in many instances rescued those from the grave who had been consigned to death by their friends. If in the course of the essay, any imperfections shall present themselves, (and I am convinced there are many) I rely securely on your ingenuousness, with the hope they will either be

overlooked or imputed to the inexperience of the author. And now, gentlemen, permit me to breathe the hope that this University, founded by your industry and perseverance, may long be the distinguished seat of science, and that it may meet with that support which the liberal principles on which it is founded justly entitle it to receive.

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